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EXAMINER	
HASAN, SYED Y	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/686,969	KELLNER ET AL.	
	Examiner	Art Unit	
	Syed Y. Hasan	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 19, 21 - 28, 30 - 33 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17 - 19 and 21 - 24* is/are allowed.

6)☒ Claim(s) *1 - 16, 25 - 28, 30 - 33 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/8/2003 and 12/22/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 19, 21 – 28, 30 – 33 and 36 filed on 11/20/2007 have been considered but are moot in view of the new ground(s) of rejection.

In re page 14, applicant argues that Itokawa is not concerned with: 1) actual playback timing that lags the ideal playback timing; nor 2) any lag resulting from the limited processing power of a computer.

Examiner responds by stating that Itokawa (US 2001/0033620) teaches: 1) actual playback timing that lags the ideal playback timing (fig 18 A and B para 0107 and 0108 illustrate the lag) and 2) any lag resulting from the limited processing power of a computer (fig 18 A and B and para 0115 and para 0125 illustrates the lag due to limited processing power)

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 16, 25 and 30 are rejected under 35 U.S.C. 102 (e) as being anticipated by Itokawa (US 2001/0033620)

Regarding **claim 1**, Itokawa discloses a computer-implemented (para 0171)

method for processing video data (para 0110) comprising:

determining an ideal playback timing associated with the video data, the ideal playback timing determined at least in part by way of information encoded in the video data (fig 3 A, B and C and fig 18 A, para 0109 illustrates ideal playback timing and information encoded in video data) and

if an actual playback timing of the video data lags the ideal playback timing, the lag resulting from a limited processing power of the computer implementing the method varying a frame rate associated with the video data using a smoothing function to recover toward the ideal playback timing (the second embodiment demonstrates the entire process para 0118 thru para 0126. Specifically fig 19A and B illustrate the lag due to limited processing power and figs 22 and 31 and para 0125 illustrate varying frame rate to achieve smoothing function to recover towards ideal playback timing)

Regarding **claim 16**, Itokawa discloses one or more computer-readable memories containing a computer program that is executable by a processor to perform the computer-implemented method (fig 17, 1704a and b, para 0106 illustrates memories and para 0009 illustrates program codes)

Claims 25 is rejected based on claim 1 above.

Claims 30 is rejected based on claim 1 and 16 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 3, 10 – 13, 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa (US 2001/0033620) in view of Mukerjee et al (US 2005/0013365) and still further in view of Robotham et al (US 5627765)

Regarding **claim 2**, Itokawa discloses the computer-implemented method (para 0171) wherein smoothly varying the frame rate includes controlling the frame rate (para 0115, smooth motion)

However Itokawa does not disclose using a frame-dropping algorithm that drops frames in the video data in accordance with the smoothing function.

On the other hand Mukerjee et al teaches a frame-dropping algorithm (page 13, para 0184)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a frame-dropping algorithm as taught by Mukerjee et al in the combined system of Itokawa in order to improve the viewing experience.

The combination of Itokawa and Mukerjee et al do not disclose a function that drops frames in the video data in accordance with the smoothing function.

On the other hand, Robotham et al teaches a function that drops frames in the video data in accordance with the smoothing function (col 5, lines 22 – 25)

It would have been obvious to one of ordinary skill in the art at the time of the

invention to incorporate a function that drops frames in the video data in accordance with the smoothing function as taught by Robotham et al in the combined system of Itokawa and Mukerjee et al in order to provide dynamic elimination of frames from video information being provided.

Regarding **claim 3**, Itokawa discloses the computer-implemented method as, wherein controlling the frame rate includes:

computing a delay by comparing the actual playback timing with the ideal playback timing (fig 18a ideal playback timing and fig 18B actual playback timing)

if the delay exceeds a threshold value (fig 18B C2 illustrates delay exceeds the threshold value) determining that the actual playback timing lags the ideal playback timing (para 0108 illustrate the timing lag)

Regarding **claim 10**, Itokawa discloses the computer-implemented method (see claim 1)

However Itokawa and Robotham et al do not disclose the frame-dropping algorithm includes if a current frame is a B-frame, dropping the current frame.

On the other hand hand Mukerjee et al teaches the frame-dropping algorithm (page 13, para 0184) includes if a current frame is a B-frame, dropping the current frame (page 8, para 0117)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the frame-dropping algorithm includes if a current frame is a B-frame, dropping the current frame as taught by Mukerjee et al in the combined system of Itokawa and Robotham et al in order to maintain visual quality.

Regarding **claim 11**, Itokawa discloses the computer-implemented method (see claim 1)

However Itokawa and Robotham et al do not disclose the frame-dropping algorithm includes if a current frame is an I-frame, showing the current frame without further determination.

On the other hand hand Mukerjee et al teaches the frame-dropping algorithm (page 13, para 0184) includes if a current frame is an I-frame, showing the current frame without further determination (page 13, para 0182)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the frame-dropping algorithm includes if a current frame is an I-frame, showing the current frame without further determination as taught by Mukerjee et al in the combined system of Itokawa and Robotham et al in order to maintain visual quality.

Regarding **claim 12**, Itokawa discloses the computer-implemented method (see claim 1)

However Itokawa and Robotham et al do not disclose the frame-dropping algorithm includes if a current frame is a P-frame, processing the current frame to obtain enough information for processing subsequent frames before dropping the current frame.

On the other hand hand Mukerjee et al teaches the frame-dropping algorithm (page 13, para 0184) includes if a current frame is a P-frame, processing the current

frame to obtain enough information for processing subsequent frames before dropping the current frame (page 13, para 0175)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the frame-dropping algorithm includes if a current frame is a P-frame, processing the current frame to obtain enough information for processing subsequent frames before dropping the current frame as taught by Mukerjee et al in the combined system of Itokawa and Robotham et al in order to maintain visual quality.

Regarding **claim 13**, Itokawa discloses the computer-implemented method (see claim 1) and if the actual playback timing does not lag the ideal playback timing (fig 18 A)

However Itokawa and Robotham et al do not disclose the frame-dropping algorithm and overriding any determination to drop frames

On the other hand hand Mukerjee et al teaches the frame-dropping algorithm (page 13, para 0184 and overriding any determination to drop frames (page 13, para 0182)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate frame-dropping algorithm and overriding any determination to drop frames as taught by Mukerjee et al in the combined system of Itokawa and Robotham et al in order to maintain visual quality.

Claims 26 is rejected based on claim 2 above.

Claims 31 is rejected based on claims 1 and 2 above.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa

(US 2001/0033620) in view of Mukerjee et al (US 2005/0013365) and still further in view of Robotham et al (US 5627765) and still further in view of Huang et al (US 6016166)

Regarding **claim 4**, Itokawa discloses the computer-implemented method 0see claim 1 above)

However the combination of Itokawa, Mukerjee et al and Robotham do not disclose wherein the threshold value accounts for ordinary system variations

On the other hand Huang et al teaches wherein the threshold value accounts for ordinary system variations (col 4, lines 54 - 67 illustrates threshold level)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate wherein the threshold value accounts for ordinary system variations as taught by Huang et al in the combined system of Itokawa, Mukerjee et al and Robotham in order to account for additional perturbations that may follow due to variations in the availability of processing resources to the multimedia playback system.

7. Claims 5 – 8, 27, 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa (US 2001/0033620) in view of Mukerjee et al (US 2005/0013365) and still further in view of Robotham et al (US 5627765) and still further in view of Negishi et al (US 6717891)

Regarding **claim 5**, Itokawa discloses the computer-implemented method (see claim 1 above)

However the combination of Itokawa, Mukerjee et al and Robotham do not

disclose wherein the delay is computed by subtracting the ideal playback timing from the actual playback timing

On the other hand Negishi et al teaches wherein the delay is computed by subtracting the ideal playback timing from the actual playback timing (col 3; line 67 and col 4, lines 1 – 2)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate wherein the delay is computed by subtracting the ideal playback timing from the actual playback timing as taught by Negishi et al in the combined system of Itokawa, Mukerjee et al and Robotham in order to accurately estimate the amount of delay between the ideal and actual playback timing

Regarding **claim 6**, Itokawa discloses the computer-implemented method (see claim 1 above)

However the combination of Itokawa, Mukerjee et al and Robotham do not disclose wherein the smoothing function incorporates the delay as a variable

On the other hand Negishi et al teaches wherein the smoothing function incorporates the delay as a variable (col 4, lines 10 – 20, illustrates delay as "error" and an attempt at a smoothing function)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate wherein the smoothing function incorporates the delay as a variable as taught by Negishi et al in the combined system of Itokawa, Mukerjee et al and Robotham in order to accurately estimate the amount of delay between the ideal and actual playback timing

Regarding **claim 7**, Itokawa discloses the computer-implemented method (see claim 1 above)

However the combination of Itokawa, Mukerjee et al and Robotham do not disclose wherein the delay is computed as an average delay that includes an average of the delay associated with a current frame of the video data and at least a delay associated with a previous frame

On the other hand Negishi et al teaches wherein the delay is computed as an average delay that includes an average of the delay associated with a current frame of the video data and at least a delay associated with a previous frame (figure 3B, col 7, lines 13 – 19)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate wherein the delay is computed as an average delay that includes an average of the delay associated with a current frame of the video data and at least a delay associated with a previous frame as taught by Negishi et al in the combined system of Itokawa, Mukerjee et al and Robotham in order to accurately estimate the amount of delay between the ideal and actual playback timing

Regarding **claim 8**, Itokawa discloses the computer-implemented method (see claim 1 above)

However the combination of Itokawa, Mukerjee et al and Robotham do not disclose wherein the average delay is an average of delays associated with the current frame and a plurality of previous frames

On the other hand Negishi et al teaches wherein the average delay is an average of delays associated with the current frame and a plurality of previous frames (figure 3B, col 7, lines 13 – 19)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate wherein the average delay is an average of delays associated with the current frame and a plurality of previous frames as taught by Negishi et al in the combined system of Itokawa, Mukerjee et al and Robotham in order to accurately estimate the amount of delay between the ideal and actual playback timing

Claim 27 is rejected based on claim 2 and 8 above.

Claim 32 is rejected based on claim 2 and 7 above.

Claim 36 is rejected based on claim 6 and 7 above.

8. Claims 9, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa (US 2001/0033620) and further in view of Mukerjee et al (US 2005/0013365) and still further in view of Robotham et al (US 5627765) and still further in view of Brown (US 2003/0210251)

Regarding **claim 9**, Itokawa discloses the computer-implemented method (see claim 1)

However Itokawa and Robotham et al do not disclose the frame-dropping algorithm includes a rasterization algorithm.

On the other hand hand Mukerjee et al teaches a frame-dropping algorithm (page 13, para 0184)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a frame-dropping algorithm as taught by Mukerjee et al in the combined system of Itokawa and Robotham et al in order to improve the viewing experience.

The combined system of Itokawa, Mukerjee et al and Robotham et al does not disclose rasterization algorithm.

On the other hand Brown teaches rasterization algorithm (page 2, para 0019)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate rasterization algorithm as taught by Brown in the combined system of Itokawa, Mukerjee et al and Robotham et al in order to smooth out display.

Claim 28 and 33 are rejected based on claim 2 and 9 above.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa (US 2001/0033620) and further in view of Dunbar et al (US 2004/0268397)

Regarding **claim 14**, Itokawa discloses the computer-implemented method and the ideal playback timing (see claim 1above)

However Itokawa does not disclose playback timing is determined from a presentation clock

On the other hand Dunbar et al teaches playback timing is determined from a presentation clock (page 2, para 0009)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate playback timing is determined from a presentation clock

as taught by Dunbar et al in the system of Itokawa in order to accurately schedule the playback mode.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itokawa (US 2001/0033620) and further in view of Dunbar et al (US 2004/0268397) and still further in view of Wang (US 7116743)

Regarding **claim 15**, Itokawa discloses the computer-implemented method (see claim 1)

However Itokawa does not disclose the presentation clock

On the other hand Dunbar et al teaches the presentation clock (page 2, para 0009)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the presentation clock as taught by Dunbar et al in the system of Itokawa in order to accurately schedule the playback mode.

The combination of Itokawa and Dunbar et al do not disclose a clock that includes a filter configured to remove noise.

On the other hand Wang teaches a clock that includes a filter configured to remove noise (col 5, lines 40 – 41)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a clock that includes a filter configured to remove noise as taught by Wang in the combined system of Itokawa and Dunbar et al in order to effectively produce a clean clock signal.

Allowable Subject Matter

11. Claims 17 – 19 and 21 - 24 are allowed.

Regarding **claim 17**, the prior art of record fails to teach, disclose or fairly suggest the computer-implemented method, wherein the frame-dropping algorithm includes:

if the frame skip factor is greater than the ideal frame rate, adding the ideal frame rate to an iterator; and

if the iterator is greater than or equal to the frame skip factor, subtracting the frame skip factor from the iterator and showing the current frame.

Therefore claim 17 is allowed.

Since claims 18, 19 and 21 - 24 depend on claim 17, hence they are allowed.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Kehlet et al (US 6831653) discloses a graphics pixel packing for improved fill rate performance

Duruoz et al (US 6654539) discloses a trick playback digital video data.

Laksonso et al (US 6297852) discloses a video display method and apparatus with synchronized video playback and weighed frame creation.

Webster III (US 5053761) discloses a method for smooth bitmap scrolling.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Y. Hasan whose telephone number is 571-270-1082. The examiner can normally be reached on 9/8/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.Y.H.
01/28/2008